



IFW 2125

September 10, 2004

Open PC-Based Machine Tool Controllers
for CNC and Factory Automation
for Power, Price & Ease of Use

Dear Mr. Albert Paladini
Patent Examiner
Fax: 703-746-7239

Application/Control Number: 10/079,309
Art Unit: 2125

Reference: Office Communication dated July 30, 2004

Once again, we want to thank you for providing us examples regarding the proper format in which to submit our "Amendment." Regarding the 35 USC 102 issue of public use or sale activity, you had asked for an explanation of how, when and whom this technology was used. To explain what we meant by stating "Multi-axes Tool compensation has been in development and in field use since 1991 by my customers" is that we created a related technology in this field but it is a different technology in its core approach in several ways.

The related technology was called "Intelligent Post Processor," which was not in a CNC Controller and varies from the new ideas we wish to patent. The technology that we wish to patent has not been used in this form by anyone outside this company while developing the prototype, which was based on ideas from our own "Intelligent Post Processor." We have never sold, lent or released to the public the technology for which we are applying. This field is our company's niche and we are now applying for a new technological approach. Prior to us applying for the patent there were no other companies using or promoting this approach.

We had originally developed a computer program we called the "Intelligent Post Processor." This feature recalculated multi-axes tool positions in an external CAD/CAM drawing system, not in the machine itself. The end user then wrote and downloaded a file in a G code format with the multiple axes positions all pre-determined. Our new approach:

- (1) Is to calculate for Multi-axes Tool Compensation "on the fly."
- (2) Do this calculation inside a machine tool, not external.
- (3) Not to store or pass the compensated positions pre-calculated by geometry alone but rather expand the intelligence of each calculation for compensated tool positions based on many internal factors of the machine such as changes to offset positions, fixture alignments, tool shape, re-sharpened tools, worn tools, physical head dynamics and mechanical styles and types while doing this "on the fly" compensation based on these ever-changing conditions.
- (4) Using artificial intelligence, it keeps a database in the machine's memory by learning from what the machine can do.

We have mailed our amendment to your office today.

Sincerely,

Gary J. Corey

21445 Bundy Canyon Drive, Wildomar, California, USA, 92595

Title of Invention: Multi-Axes Tool Compensation -- 3D and 5-axis real-time interactive tool compensation inside the CNC machine tool controller.



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mailed via
us Post Office
Sept. 10, 2004

Mail Stop Non-Fee Amendment
Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Attn: Mr. Albert W. Paladini



Applicant : Gary John Corey
Appl. No. : 10/079,309
Filed : January 11, 2002
Title : Multi-Axes Tool Compensation – 3D and 5-axis real time
interactive tool compensation inside the CNC machine tool
controller

Grp./A.U. : 2125
Examiner : Albert W. Paladini

Docket No. : None

Honorable Commissioner for Patents
Washington DC 20231

SUBSTITUTE SPECIFICATION


Sir:

This substitute specification includes no new matter.

Respectfully submitted,

INVENTOR

BY


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